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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/043,577

01/10/2002

Daniel N. Harres

38190/241063

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05/31/2005

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p><b>Application No.</b></p> <p>10/043,577</p>	<p><b>Applicant(s)</b></p> <p>HARRES, DANIEL N.</p>	
	<p><b>Examiner</b></p> <p>Qutub Ghulamali</p>	<p><b>Art Unit</b></p> <p>2637</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 12-15, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 5-11, 16-22 and 25-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/10/02</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 12, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al (USP 6,493,409).

Regarding claims 1, 12, and 23 Lin discloses a decoder for decoding at least one quadrature amplitude modulated (QAM) signal comprising:  
at least one tapped-delay line filter comprising at least one delay element, wherein said at least one tapped-delay line filter is capable of receiving the integrated at least one QAM signal and thereafter outputting a representation of each bit of the at least one n-bit digital signal (col. 19, lines 1-15; col. 20, lines 43-54). Lin although does not explicitly show an integrator for integrating at least one QAM signal, however does disclose the integrator is an integral plus proportional filter (abstract; col. 8, lines 6-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt Lin's integrator/filter in the system disclosed.

3. Claims 2, 13, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al (USP 6,493,409) in view of Visser (USP 4,700,360).

Regarding claims 2, 13 and 24, Lin discloses all claim limitations but is silent regarding a comparator capable of receiving digital signal and outputting the represented signal. Visser in a similar field of endeavor discloses a comparator capable of receiving the representation of each bit of the at least one n-bit digital signal and thereafter outputting each bit of the at least one n-bit digital signal based upon a comparison of the representation of each bit to a predetermined threshold (col. 5, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a comparator as taught by Visser in the system of Lin because it can represent in the reconstruction of the encoded signal.

Regarding claims 3 and 14, Lin discloses a decoder comprises n integrators, and wherein said at least one tapped-delay line filter comprises n tapped-delay line filters (see col. 19, lines 1-15).

Regarding claims 4 and 15, Lin discloses all claim limitations but is silent regarding n comparators capable of receiving the representation of digital signal and outputting the represented signal. Visser in a similar field of endeavor discloses n comparators (see fig. 7, elements 62, 66) capable of receiving the representation of each bit of the at least one n-bit digital signal and thereafter outputting each bit of the at least one n-bit digital signal based upon a comparison of the representation of each bit to a predetermined threshold (col. 5, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use n comparators as taught by Visser in the system of Lin because it can represent in the reconstruction of the encoded signal.

*Allowable Subject Matter*

4. Claims 5-11, 14-22, and 25-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Whikehart (USP 5222144) shows a digital quadrature radio receiver with two-step processing of signals.

Miyashita et al (UP Pub 2001/0024468), discloses a digital signal processing and transmission system.

Short et al (USP 5031173) discloses a decoder for added asynchronous bit sequences.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

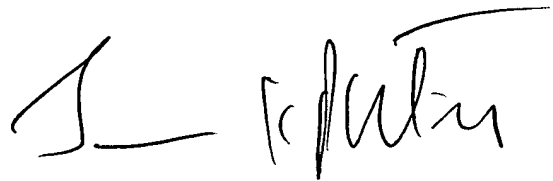
The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.  
May 27, 2005.

A handwritten signature in black ink, appearing to read 'J. K. Patel', with a long horizontal line extending from the end of the signature.

**JAY K. PATEL**  
**SUPERVISORY PATENT EXAMINER**